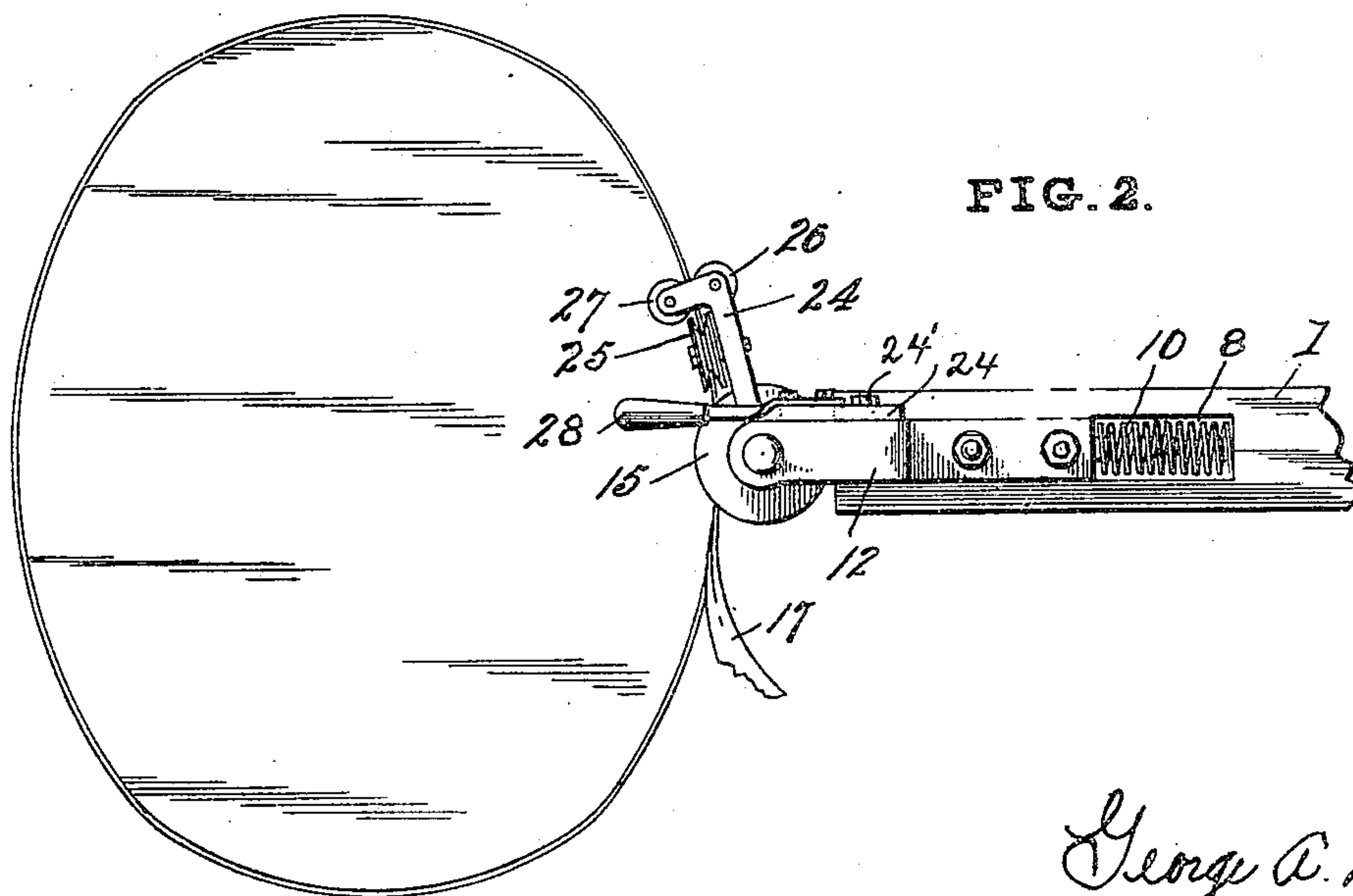
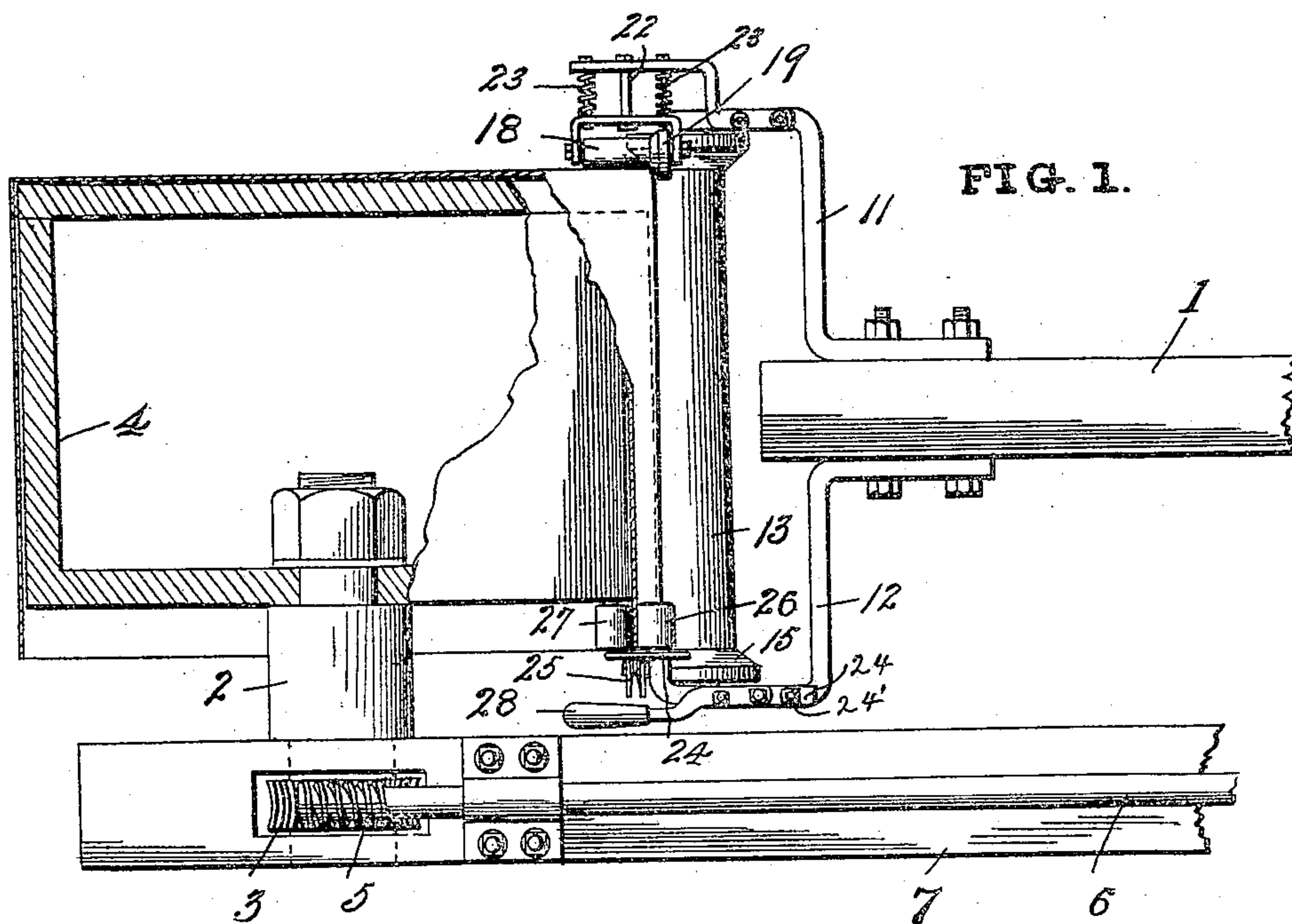


No. 817,631.

PATENTED APR. 10, 1906.

G. A. DIEMER.
BOX COVERING MACHINE.
APPLICATION FILED JULY 3, 1905.

2 SHEETS—SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 3.

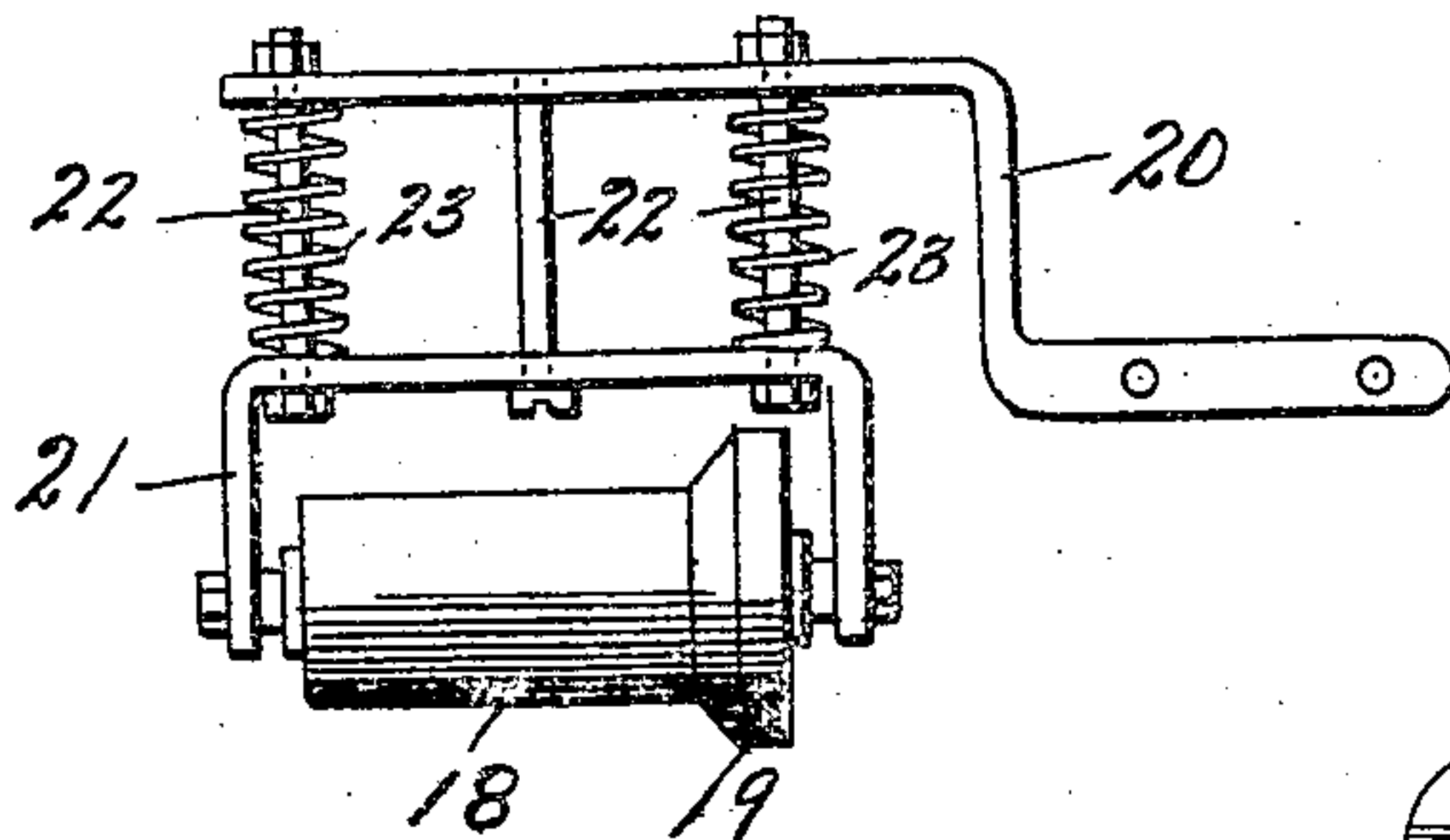


FIG. 4.

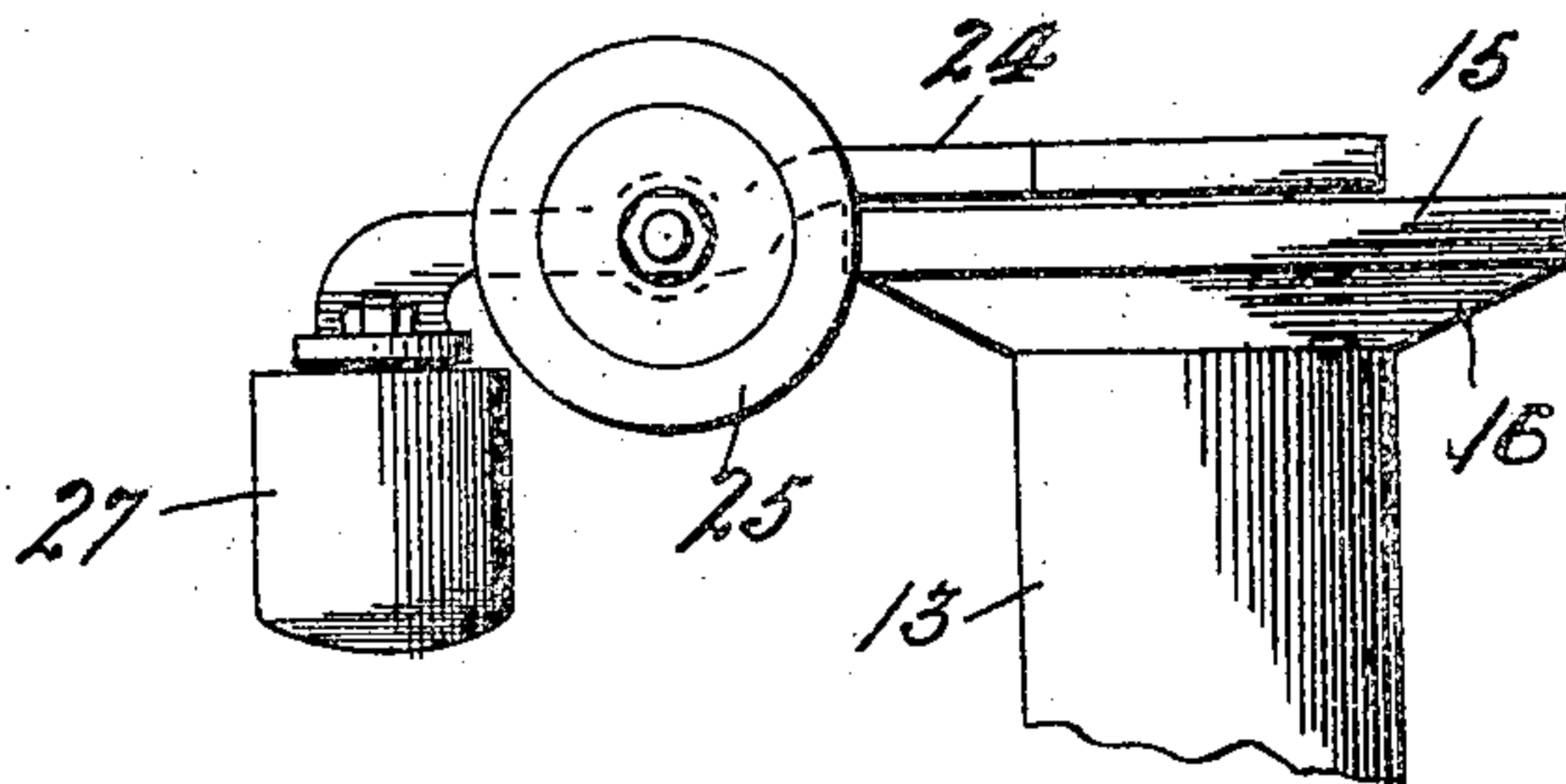


FIG. 5.

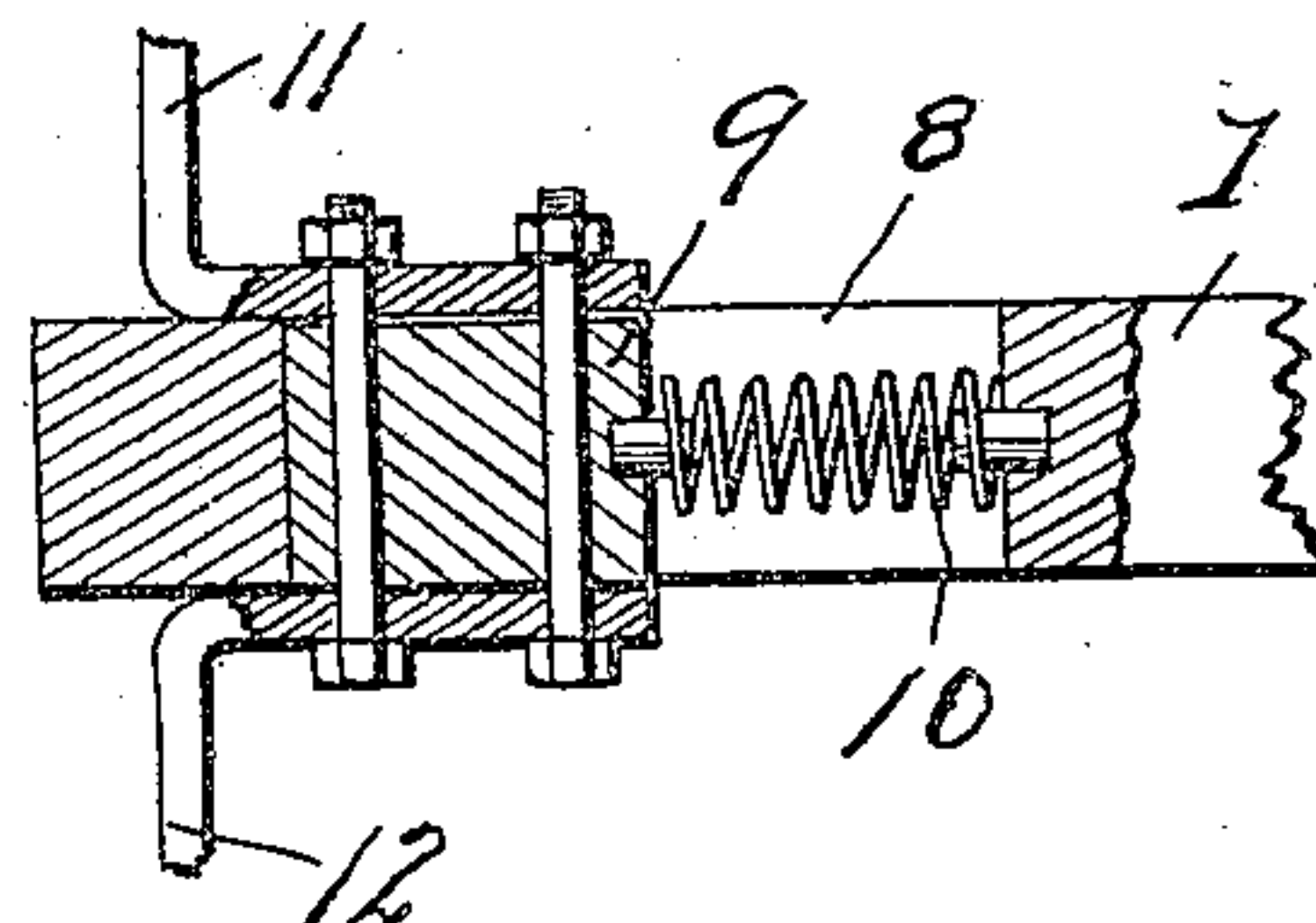
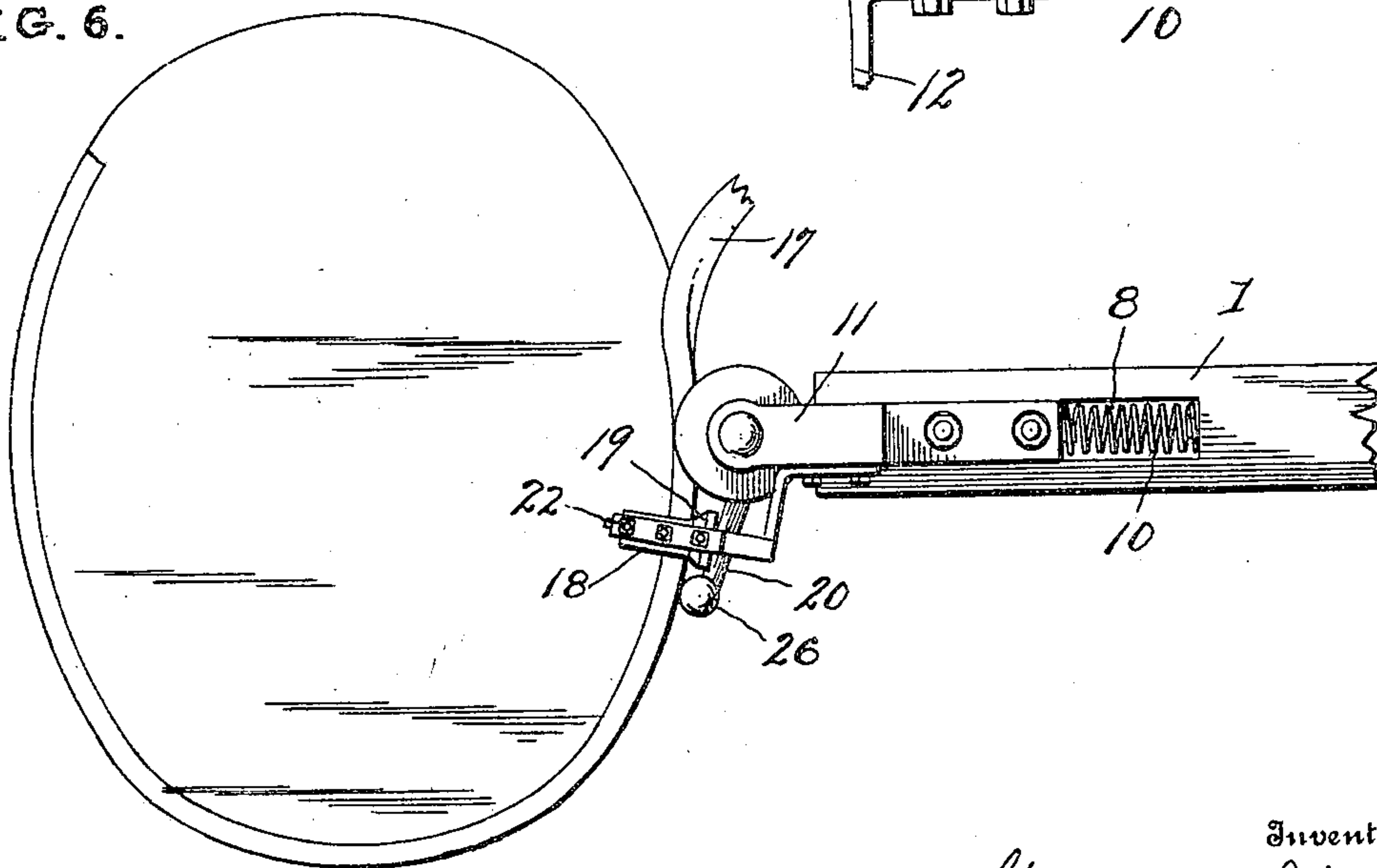


FIG. 6.



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UNITED STATES PATENT OFFICE.

GEORGE A. DIEMER, OF NEWBURGH, NEW YORK.

BOX-COVERING MACHINE.

No. 817,631.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed July 3, 1905. Serial No. 268,175.

To all whom it may concern:

Be it known that I, GEORGE A. DIEMER, a citizen of the United States, residing at Newburgh, in the county of Orange and State of New York, have invented certain new and useful Improvements in Box-Covering Machines, of which the following is a specification.

This invention relates to box-covering machines, and has for its object to provide a machine which will paste the covering material on boxes, turning the upper edge in and securing it to the inside of the box, while the lower edge is turned under and secured to the bottom.

A further object is to provide a machine for covering boxes which is automatic in operation and constructed of but few parts, each of which is adapted to be easily replaced when worn or damaged.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a top plan view of my improved box-covering machine, showing the box and block partly in section. Fig. 2 is a side of the edge-covering mechanism, showing the interior of the box. Fig. 3 is a detail view of the roll adapted to press the paper against the bottom edge of the box. Fig. 4 is a similar view of the turning-wheel and pressing-rolls adapted to turn the paper over the top edge and press it against the side of the box. Fig. 5 is a sectional view of the arm for the several rolls. Fig. 6 is a side view showing the rolls adapted to press the paper against the bottom of the box.

Referring to the drawings, in which like numerals of reference indicate corresponding parts throughout the several views, 7 is a support in which is journaled a horizontal stub-shaft 2, provided with a worm-wheel 3. Stub-shaft 2, together with form-block 4, is adapted to be rotated by worm 5 on power-shaft 6. The form-block 4 is of substantially the same shape and diameter as the boxes to be covered, the horizontal dimension being a little less than the depth of the box.

Perpendicular to the form-block 4 is a longitudinally-movable arm 1, provided with a slot 8, in which is located a sliding block 9, normally held toward the forward end of the arm by spring 10. Secured to the outer ends of sliding block 9 are brackets 11 and 12, in the ends of which are journaled the main pressing-roll 13. This roll 13 has a cylindrical body portion 14 of the same length as the height of the box. The enlarged end portion 15 is provided with bevels 16, extending outwardly from the body portion 14, said bevels serving to give the edges of the paper 17 their first turn. A small pressing-roll 18 with an enlarged end portion 19 is carried by arm 20, which is secured to bracket 11. Said roll 18 is journaled in a yoke 21, which is secured to arm 20 by bolts 22, said yoke being movable along said bolts toward and from said arm. Springs 23 serve to hold roll 18 against the box, as will be hereinafter more fully described. To the bracket 12 an arm 24 is pivotally secured, as at 24', which arm carries a grooved wheel 25 and pressing-rolls 26 and 27.

The wheel 25 is located on the arm between roll 13 and rolls 26 and 27 and is adapted, after the edge of the paper 17 is given its first turn by bevel 16, to force said edge into the box close to the side. Rolls 26 and 27 are adapted to engage the edge of the box on the outside and inside, respectively, for the purpose of pressing the edge of the paper thus turned in firmly against the side of the box, causing it to adhere thereto. A handle 28 is carried by arm 24 for the purpose of withdrawing the wheel 25 and rolls 26 and 27 from engagement with the box when it is desired to withdraw the mechanism carried by arm 7 away from the block to enable the covered box to be replaced.

The operation of my invention is as follows: The arm 1, with the mechanism which it carries, being withdrawn, a box is placed on form-block 4. The arm 1 is then moved forward (the handle 28, together with wheel 25 and rolls 26 and 27, being at right angles to the position shown in Fig. 1) until roll 13 is held firmly against the side of the box. Roll 18 is pressed firmly against the bottom of the box by springs 23. Rolls 26 and 27 and wheel 25 are then swung into engagement with the top edge of the box, as shown in Fig. 1, the said rolls being held in engagement by the friction at pivot-point 24'. The paper 17, coated on one side with an adhesive material, is then fed between roll 13 and the

box from the under side of said roll, as shown in Fig. 2. The edges of the paper which extend a short distance beyond the top and bottom of the box will be forced inward by the bevels 16 as the form-block 4 and the box which it carries are revolved by power-shaft 6 through worm 5 and worm-wheel 3, secured to stub-shaft 2. The edge of the paper adjacent the bottom of the box will be engaged by roll 18 and forced firmly against the bottom of the box, to which it will adhere, the springs 22 and 23 holding said pressing-roll firmly in contact therewith. The opposite edges of the paper after being turned in by bevel 16 will be engaged by wheel 25 and forced toward the bottom of the box by the groove in the periphery of said wheel. In this position the roll 27 engages the edge and presses it firmly against the inside edge of the box, the roll 26 offering resistance to roll 27 during the operation. By yieldably mounting these rolls on the arm 1 the mechanism will be moved forward and backward as the long and short diameter of the box comes in contact with roll 13, the pressure of said roll 13 causing the paper to adhere to the side of the box.

Having thus described my invention, what I claim as novel, and desire to secure by Letters Patent, is—

1. In a box-covering machine, the combination with means for holding and means for rotating the box, of covering means comprising a main presser-roll engaging the side of the box during its rotation, said main presser-roll having beveled flanges on each end adapted to turn a covering-paper inwardly at the top and bottom of said side.

2. In a box-covering machine, the combination with means for holding and means for rotating the box, of covering means comprising a main presser-roll engaging the side of the box during its rotation, said main presser-roll having beveled flanges on each end adapted to turn a covering-paper inwardly at the top and bottom of said side, a supplemental presser-roll having an outstanding beveled flange and mounted on a bracket and supported by two springs adapted to engage the turned portion of the covering-paper at the lower end of the box and further turn and press the same against the bottom of said box.

3. In a box-covering machine, the combination with means for holding and means for rotating the box, of covering means comprising a presser-roll engaging the side of said box during its rotation, said presser-roll being provided with beveled flanges adapted to bend a covering-paper inwardly at the top and bottom of said side, a supplemental presser-roll having an outstanding beveled flange, adapted to engage the bent portion of the covering-paper at the lower end of the box and to press the same against the bottom

of the said box, a grooved wheel adapted to engage the bent portion of the paper at the upper edge of the box and press the free end thereof within the box, and a pair of rolls disposed in proximity to each other and adjusted to engage the upper edge of the box on the inner and outer sides thereof and adapted to press the portion of the covering-paper within the box against the inner side thereof.

4. In a box-covering machine, the combination with means for holding and means for rotating the box, of covering means comprising a main presser-roll engaging the side of the box during its rotation, said main presser-roll having beveled flanges on each end adapted to turn a covering-paper inwardly at the top and bottom of said side, a supplemental presser-roll having an outstanding beveled flange and mounted on a bracket and supported by two springs adapted to engage the turned portion of the covering-paper at the lower end of the box and further turn and press the same against the bottom of said box, a grooved wheel mounted on an arm adapted to engage the turned portion of the paper at the upper edge of the box and turn the same within the box.

5. In a box-covering machine the combination with means for holding and means for rotating the box, of covering means comprising a main presser-roll engaging the side of the box during its rotation, said main presser-roll having beveled flanges on each end adapted to turn a covering-paper inwardly at the top and bottom of said side, a supplemental presser-roll having an outstanding beveled flange and mounted on a bracket and supported by two springs adapted to engage the turned portion of the covering-paper at the lower end of the box and further turn and press the same against the bottom of said box, a grooved wheel mounted on an arm adapted to engage the turned portion of the paper at the upper edge of the box and turn the same within the box, a pair of rolls disposed in proximity to each other and adjusted to engage the upper edge of the box on the inner and outer sides thereof and adapted to press the portion of the covering-paper within the box against the inner side thereof.

6. In a box-covering machine the combination with means for holding and means for rotating the box, of covering means comprising a main presser-roll engaging the side of the box during its rotation, said main presser-roll having beveled flanges on each end adapted to turn a covering-paper inwardly at the top and bottom of said side, a supplemental presser-roll having an outstanding beveled flange and mounted on a bracket and supported by two springs adapted to engage the turned portion of the covering-paper at the lower end of the box and further turn and press the same against the bot-

5 tom of said box, a grooved wheel adapted to engage the turned portion of the paper at the upper edge of the box, a pair of rolls disposed in proximity to each other and adjusted to engage the upper edge of the box on the inner and outer sides thereof and adapted to press the portion of the covering-paper within the box against the inner side thereof, said pair of rolls and grooved wheel

mounted on an adjustable arm whereby the said rolls and grooved wheel may be simultaneously disengaged.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE A. DIEMER.

Witnesses:

GEO. J. WITTMANN,
GEO. R. WILLIAMS.